



DEPARTMENT OF APPLIED IT,  
IT FACULTY

# **FROM BOOMERS TO ZOOMERS: EXAMINING GENERATIONAL SENSEMAKING OF NEW MEDIA AT WORK INTRODUCED DURING COVID-19**

Mabel Lee

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Supervisor:	Davide Girardelli
Examiner:	Arjan Verdooren
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## **Abstract**

COVID-19 has triggered rapid digitalization in organizations worldwide. New media at work tools were introduced as companies quickly shifted to remote work. Baby Boomer, Generation-X, Millennial and Generation-Z employees had to use new media at work at short notice. The rapid introduction of new media at work could be problematic for multi-generational organizations, as generational literature suggests older generations face more challenges with technology than younger, tech-savvy generations. However, recent reports conducted during COVID-19 suggest Generation-Zs have been more negatively affected by the use of new media at work. This study investigates how and why different generations of employees have been affected by new media at work introduced during COVID-19. Karl Weick's (1995) sensemaking theory is used as a theoretical lens to examine how different generations of employees make sense of new media at work introduced during COVID-19. Semi-structured interviews were conducted with four generations of employees from a Singapore organization. Data was analysed in four levels, using the constant comparative approach. Findings suggest employees from each generation differed in the sensemaking aspects of enactment, selection and retention of new media at work introduced during COVID-19. Baby Boomers were learning to cope with new media at work, Generation-Xs used new media at work to lead others, Millennials used new media at work to be more efficient, and Generation-Zs used new media at work to assimilate with the organization. This study contributes to generational and sensemaking research by suggesting that generational sensemaking of new media at work is influenced by knowledge of new media at work tools, emotions, organizational identities, and new media at work interactions with

other generations. This study further expands sensemaking research by proposing a conceptual model of enablers and disablers in the enactment, selection and retention of new media at work introduced during COVID-19.

## **Keywords**

COVID-19; Generations, Multigenerational workforce; New media at work; Sensemaking

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## Introduction

COVID-19, declared a pandemic by the World Health Organization in March 2020 (World Health Organization, 2020), has disrupted traditional ways in which organizations across the world work. Remote working was enforced by many organizations through work-from-home policies, and face-to-face interactions replaced by digital forms of communication (Waizenegger, McKenna, Cai, and Bendz, 2020). COVID-19 triggered rapid digitalization in organizations (McKinsey & Company, 2020) as companies introduced new digital forms of communication such as Zoom and Microsoft Teams (Stephens et al, 2020) to maintain operations and employee interactions (Mockaitis & Butler, 2020). Zoom reported a 76% increase in subscriptions from businesses from April 2020 to January 2021 (Zoom, 2021), while Microsoft reported a 150% increase in the usage of Microsoft Teams by businesses globally between 2020 and 2021 (Microsoft, 2021).

Employees of different generations in the workplace, from Baby Boomers to Gen-Zs, have had to use these new forms of digital communication for work at short notice (Stephens et al, 2020). Generational research suggests Baby Boomers face more challenges with technology (Czaja et al, 2006; Van Volkom, Stapley and Amaturro, 2014) and that generational tensions due to gaps in technological abilities may increase with the rapid shift towards new forms of digital communication (Urick, 2020). However, recent studies conducted since the onset of COVID-19 suggest that younger generations, particularly Gen-Z employees, are most negatively affected by the introduction of new forms of digital communication during the pandemic (Microsoft, 2021; Smartsheet, 2020, Mockaitis & Bulter, 2020). This study seeks to investigate whether there are generational differences in the use of new forms of digital communication introduced during COVID-19, and if so, what these differences could be. In particular, this study applies Karl Weick's theories of organizational sensemaking (1995) and sensemaking of technology (1985) as analytical lenses to examine how different generations make sense of the new forms of digital communication introduced by their organization during the pandemic.



In-depth, semi-structured interviews were conducted with participants from four generations – Baby Boomers, Generation-Xs, Generation-Ys and Generation-Zs – to understand their experiences with using new forms of digital communication for work during COVID-19. Participants are employees of a Singapore-based organization which introduced new forms of digital communication within two weeks following a government directive for employees to work-from-home (Toh & Wong, 2020).

Three key terms defining generational cohorts, new forms of digital communication at work and sensemaking are applied in this study. First, this study adopts Dimock's (2019) definition of generational cohorts as a reference to Baby Boomers, Generation-Xs, Generation-Ys and Generation-Zs (henceforth abbreviated as Boomers, Gen-Xs, Millennials and Gen-Zs respectively). Boomers are born between 1946 and 1964, Gen-Xs between 1965 and 1980, Millennials between 1981 and 1996 and Gen-Zs between 1997 and 2012. Second, Gephart's (2004) definition of "new media at work" (henceforth abbreviated to NMAW) is applied as a more specific reference to the new forms of digital communication introduced during COVID-19. Examples of NMAW include emails, asynchronous computer conferencing, synchronous video and audio computer-mediated conferencing, chat, and other digital technologies that facilitate the exchange of multiple communication modes (Gephart, 2004). Third, this study applies Weick's (1995) definition of sensemaking as the process by which people seek to impose stability on their environment which has undergone sudden, unexpected changes, through enactment, selection and retention. These terms will be elaborated in greater detail in Section 2.

Section 2 presents a review of the literature on generational research and sensemaking. It provides an overview of generational studies related to organizations, technology and the use of NMAW during COVID-19. Section 2 also explains the theories of sensemaking and sensemaking of technology, provides an overview on their application to organizational research, and identifies

research gaps in generational and sensemaking studies. Section 3 presents the research question (RQ) and explains the organizational context of the study. Section 4 explains the methodology undertaken to answer the RQ. Section 5 presents the findings. Section 6 discusses the findings and expands the current field of knowledge in generational and sensemaking research. Section 7 concludes with an overview of the limitations, contributions to theory and practical implications and recommendations for future research.

## **2. Literature Review**

This section presents literature in two main areas of research relevant to the topic of study: generational studies related to technology in the workplace, and sensemaking as a theoretical lens.

### **2.1 Generational differences**

This subsection provides an overview of the relevant generational literature. It establishes definitions of different generations, summarizes main findings in the literature related to generational differences in the use of technology in the workplace, and identifies how different generations have been affected by the use of NMAW introduced during COVID-19.

#### **2.1.1 *Definitions of generations***

Mannheim's (1953) categorization of individuals into different age cohorts is widely used in generational literature to define the different generations (Dwyer & Azevedo, 2016). A generational cohort describes a group of people who were born and raised in the same time period, sharing similar social environments (Murphy, Gibson & Greenwood, 2010) and events during their formative years (Lim & Parker, 2020). Scholars of generational studies argue that each generation is influenced by different social events and environments (Twenge, Campbell, Hoffman & Lance, 2010). Members of the same generation would react in similar ways, but differently from other generations (Seesa, Kabacoff, Deal & Brown, 2007).

Generational literature identifies four generations active in today's workplace, and how generational differences play out in organizations. Four generations – Boomers, Gen-Xs, Millennials and Gen-Zs – exist in today's workforce (Dimock, 2019; Microsoft, 2021). The Pew Research Centre (Dimock, 2019) defines Boomers as people born between 1946 and 1964, Gen-Xs between 1965 and 1980, Millennials between 1981 and 1996 and Gen-Zs between 1997 and 2012. Multigenerational research conducted in organizations range from generational work traits (Dwyer & Azevedo, 2016), generational stereotypes of employees (Posthuma and Campion 2009; Ng and Feldman 2012, Perry et al, 2013), and leadership goals (Insead, 2020). In a review of multigenerational studies in the workplace, Toomey and Rudolph (2017) found that age stereotypes, defined as overgeneralized expectations and beliefs about traits of individuals based on age, are prevalent in organizations. Boomers and Gen-Xs are stereotypically perceived to be resistant to change and have a lower ability to learn and master new skills (Posthuma & Campion, 2009). Millennials and Gen-Zs are stereotypically perceived to be more productive and efficient, with a need for instant feedback (Perry, Hanvongse & Casoinic, 2013). Separately, a recent study by Insead (2020) on leadership goals of Gen-Xs, Millennials and Gen-Zs found that opportunities to mentor and influence the organization were the main motivators driving Gen-Xs' leadership goals.

Scholars of generational literature broadly agree that people can be categorized into different generations based on milestone socio-political events in their formative years (Dwyer & Azevedo, 2016). However, as generational research tends to be US-centric, US-specific socio-political events are more widely used to define generational cohorts in current literature (Lim & Parker, 2020). This bias could be problematic, as formative socio-political events would vary according to one's cultural context. To mitigate cultural biases, this study adopts Dimock's (2019) categorization of generational cohorts defined above, as it uses changes in technology – a widely experienced global phenomenon – as the main differentiating event which has shaped the formative experiences of different generational cohorts.

### **2.1.2      *Generational differences in the use of technology in the workplace***

Technology has shaped the formative years of the four generations differently, with the pervasiveness of digital technology increasing as the generations get younger (Dimock, 2019). Boomers grew up with analog technology in the age of television; Gen-Xs experienced the shift from analog to digital technology as the computer revolution took hold; Millennials had then-unprecedented access to technology during the internet age; while Gen-Zs are digital natives in the ‘always on’ digital environment of mobile connectivity and social media (Insead, 2020; Dimock, 2019). Technology has shaped how Gen-Xs and Millennials differentiate themselves from older generations: both generations listed technology as the defining feature of their generation while older generations did not (Pew Research Centre, 2014). The degree of experience with technology differs between Boomers and the later generations. Compared to Gen-Xs and Millennials, Boomers were found to have the least experience with computers (Czaja et al, 2006), were more uncomfortable with existing technology and less likely to adapt to technology (Van Volkom, Stapley and Amaturro, 2014).

Technology-related generational differences play out at the workplace. Attitudes towards technology affects the job motivation and satisfaction of Boomers and the younger generations differently. While attitudes towards technology did not affect job motivation and satisfaction of younger generations, Boomers with less positive attitudes towards technology reported lower job motivation and satisfaction (Elias, Smith & Barney, 2012). Technology-related differences also affect generational communication preferences in the workplace. Gen-Zs, through their lifelong use of digital technologies, are savvy with asynchronous communication technologies such as video sharing, texting and blogging (Deal, Altman, & Rogelberg, 2010; Palfrey & Gasser, 2013; Wesolowski, 2014). This translates to Gen-Z’s preference for an interactive exchange of information regarding organizational developments (Culpin, Millar, & Peters, 2015) and reciprocal, immediate feedback

(Myers & Sadaghiani, 2010). Boomers on the other hand, prefer face-to-face communication in the workplace (Proserpio & Gioia, 2007; Benson & Brown, 2011). Flinchbaugh, Valenzuela, and Li (2018) warn that this gap in communication medium preferences could be an impasse to effective information exchange in the workplace.

### **2.1.3      *Generational differences to NMAW introduced during COVID-19***

Generational differences in the use of technology could be problematic for organizations with a multigenerational workforce, especially with the introduction of NMAW during COVID-19. Urick (2020) points out that COVID-19 has caused many organizations with multigenerational workforces to “scramble and quickly adopt online work environments” (p.380). This rapid, unexpected shift towards NMAW would increase inherent intergenerational tensions, particularly if members of different generations fall back on intergenerational stereotypes surrounding the ability of other generations to use technology and handle change. Urick (2020) further warns that unless organizations take steps to facilitate intergenerational communication, the negative perceptions one generation has towards another is likely to lead to less motivation to interact with each other.

Urick’s (2020) warnings are warranted, given the rapid adoption and extensive use of NMAW during COVID-19. The 2021 Work Trend Index (Microsoft, 2021) analysed how 31,000 employees across 31 countries used work collaboration tools in Microsoft 365 and Microsoft Teams (henceforth abbreviated to Teams). Significant increases in the use of NMAW were observed between 2020 and 2021. Time spent on Teams increased 150% globally, an average Teams user sent 45% more Teams chat messages and the number of people working on Microsoft documents increased 66%. However, a trend of shrinking networks in organizations was reported. An analysis of Outlook emails and Teams meetings found that users interacted more with their close networks but less with their distant networks. The report suggested organizations became more siloed during

COVID-19 as employees depended more on their immediate teams for support, despite the introduction of NMAW which affords collaborations across time and space (Microsoft, 2021).

Studies that investigate how different generations have been impacted by the increase in NMAW introduced during COVID-19 found Gen-Zs to be most negatively affected. The Work Trend Index (Microsoft, 2021) found that 60% of Gen-Zs were struggling with remote working. Compared to other older generations, Gen-Zs feel less engaged at work, find it difficult to speak during conference meetings and communicate new ideas. These issues decrease as generations get older. These findings are corroborated by other generational studies. Smartsheet (2020) found Millennials and Gen-Zs who use NMAW feel less connected, productive and informed about organizational updates, as compared to older generations. Mockaitis and Butler (2020), who studied Boomers, Gen-Xs and Millennials, found Millennial employees had the hardest time coping with COVID-19 at work. These findings may appear paradoxical given the overall consensus that younger generations are more digitally savvy and receptive to technology. Research suggests however, that Gen-Zs struggle during COVID-19 because they are the newest entrants to the organization with smaller workplace networks (Microsoft, 2021), and remote working has made it harder for them assimilate with the broader organization (Ancona, Bresman & Mortensen, 2021).

#### **2.1.4     *Research gaps in generational studies***

This study seeks to fill two research gaps identified in the review of generational literature. First, generational research tends to be American-centric (Lim, 2020; Dwyer & Azevedo, 2016). Organizational scholars argue local cultures influence workplace behaviours (Hofstede, 2011). While generational studies in organizations have been conducted in other countries such as China (Yi, Ribbens & Morgon, 2010), Australia (McMahon & Pospisil, 2005), Malaysia (Tay, 2011) and Singapore (Lim & Parker, 2020) just to name a few, more research could be done on organizations outside America to provide greater consideration for the influence of cultural context on generational

differences in the workplace. This study seeks to provide a non-American perspective to generational research by interviewing employees of different generations working in a Singapore organization.

Second, a review of the literature suggests two dichotomous strands of findings in the research. On one hand, studies suggest that older generations face more challenges with technology (Czaja et al, 2006; Van Volkom, Stapley and Amaturro, 2014) while younger generations are more tech-savvy (Deal, Altman, & Rogelberg, 2010; Palfrey & Gasser, 2013; Wesolowski, 2014). However, recent reports conducted during COVID-19 suggest younger generations have been more negatively affected by using NMAW. This study seeks to find out which of these may be more relevant today by investigating how different generations of employees used NMAW introduced by the organization during COVID-19. In doing so, this study aims to establish if the introduction of NMAW during COVID-19 has indeed affected generations differently, and if so, how and why.

To do so, this study adopts Karl Weick's (1995) theories of organizational sensemaking and sensemaking of technology (1985) as theoretical lenses to unpack the complexities behind the generational differences related to the use of NMAW introduced during COVID-19.

## **2.2 Sensemaking as theoretical lens**

This subsection summarises sensemaking as a theoretical lens by explaining organizational sensemaking and sensemaking of technology theories, and reviews their application to organizational research.

### **2.2.1 *Organizational sensemaking***

Sensemaking refers to the process by which people make sense of sudden, unexpected changes to their environment by noticing and interpreting cues, and acting on their interpretations to impose stability on the environment (Weick, 1995). When unexpected ecological changes occur, people attempt to impose stability back to their environment by reducing equivocality, or the

multiple plausible meanings of their new environment. To do so, they enter aspects of *enactment*, *selection* and *retention* (Weick, 1995). Each of these sensemaking aspects is underpinned by seven sensemaking properties (Kudesia, 2017).

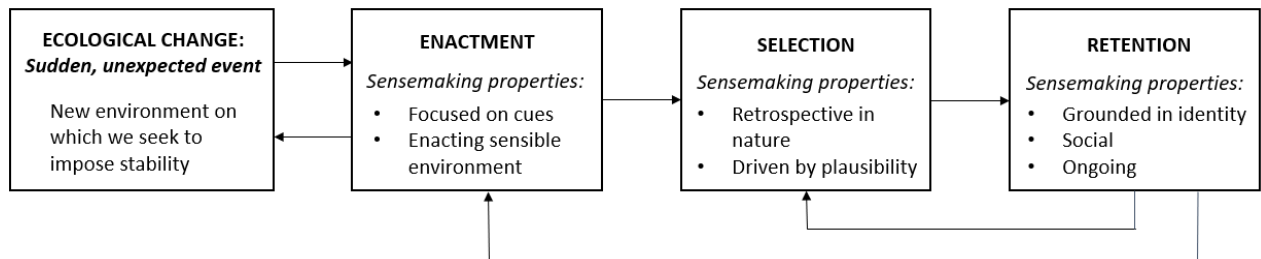
Weick (1995) lists the seven sensemaking properties as: (1) *Grounded in identity construction*: people determine who they are now in relation to an equivocal environment, and who they will become as they start trying to change the environment; (2) *Retrospective in nature*: people use past information to interpret how the current disruption came about; (3) *Based on enacting sensible environments*: people aim to create an environment that is more orderly than an equivocal one; (4) *Social*: interpretations are negotiated and enacted through social interactions; (5) *An ongoing process*: sense is always subject to disruption and therefore in need of re-accomplishment; (6) *Focused on cues extracted from the environment*: informational cues containing equivocality provide the raw material for interpretation; (7) *Driven by plausibility*: people seek out what is plausible instead of accurate as they need to only have enough clarity to coordinate action.

Kudesia (2017) maps these seven properties into the enactment, selection and retention aspects of sensemaking. Enactment refers to how people react and shape their environment through perception and behaviour, and involves a *focus on cues to enact a sensible environment*. Selection refers to the interpretative process people use to determine what the bracketed information means. It is *retrospective in nature* because people draw on their past experiences to interpret cues, and is *driven by plausibility* because they seek interpretations they can act on. Retention is *grounded in identity* because interpretations which have been acted on affect individual and collective identities, *social* because these actions are negotiated through interactions with others, and *an ongoing process* because actions are continuously applied to the environment. Figure 1 illustrates the sensemaking process of enactment, selection and retention and their related sensemaking properties, as people seek to impose stability back to their changed environment.



**Figure 1**

*Sensemaking as a Process of Enactment, Selection and Retention (Kudesia, 2017, p.10)*



The social construction of sensemaking by various individuals can be further analysed on three levels (Weick, 1995). First, the *intra-subjective* or individual level, where an individual's sensemaking is shaped by their personal experiences (Weick, 2020), and influenced by their personal actions or beliefs (Weick, 1995). Second, the *inter-subjective* or group level, where individuals' sensemaking is shaped by social interactions with others. Third, the *generic-subjective* or collective level, in which interpretations tend to be stable over time. However, when unexpected environmental changes occur, the emergent group-level inter-subjectivity may be at odds with the established organization-level generic subjectivity. When this occurs, sensemaking becomes “a bridging operation” (p.75) between the levels of subjectivity (Weick, 1995).

Sensemaking has been applied to organizational research, with scholars applying it as a theoretical lens to understand how and why employees respond to ecological changes in their organizations. Sensemaking processes of enactment, selection and retention have been found to influence outcomes during times of organizational crisis and change. Weick's (1987) analysis of the Challenger explosion for example, showed that enactment played a crucial role in the disaster, as NASA employees missed complex cues generated by the system. In a study of new college presidents, Smerek (2013) found that selection and retention played a critical role in how they made

sense of their role in a new environment, developing plausible interpretations and actions of their responsibilities.

Other studies focus on the interplay between the various subjective levels of sensemaking. Sense-giving, defined by Gioia & Chittipeddi (1991) as “the process of attempting to influence the sensemaking and meaning construction of others towards a preferred redefinition of organizational reality” (p. 422), is a particular area of interest. Gioia and Chittipeddi (1991) found that CEOs instigated strategic change by leveraging on the reciprocal relationship between sensemaking and sense-giving, while others (Balogun, 2003; Huy, 2002; Beck & Plowman, 2009) highlighted middle managers as central sense-givers mediating between top management and lower-level employees. Having a shared organizational identity is a key ingredient for sensemaking as it provides an anchor around which groups construct meaning and understand their collective experience (Maitlis & Sonenshein, 2010). As such, sensemaking has also been used to study organizational identities during times of organizational change. Research shows employees’ identities during organizational change are updated (Fiol, 2002) and often get replaced (Corley & Gioia, 2004). These changes may lead to workplace resistance as employees struggle to make sense of their identity transformation (Chreim, 2002; Reger, Gustafson, Demaire & Mullane, 1994).

Despite the extensive application of sensemaking to organizational studies, Maitlis and Sonenshein (2010) highlight two areas which require more research: the impact of emotions and influence on sensemaking during times of organizational change. In their review of sensemaking literature, Maitlis and Sonenshein (2010) point out that while studies show negative emotions are prevalent in organizational change, the impact of these emotions remain relatively unexplored. The authors also call for more research into the politics of organizational sensemaking, specifically who gets the opportunities to influence organizational sensemaking during times of change, and with what effect.

### **2.2.2 Sensemaking of technology**

Weick (1985) also applied the sensemaking process to the use of technology, describing the processing of electronic information as sensemaking “in front terminals” (p. 56). He argues that people find it harder to make sense of events represented on screens for two reasons. First, electronic data is incomplete as they contain only what can be collected and processed digitally. Second, users have limited capacity to process information holistically as they lack access to non-digital information and actions by which they usually validate their observations. In short, sensemaking is handicapped, as people “act less, compare less, pause less and consolidate less when they work at terminals than when they are away from them” (p. 56).

Gephart (2004) updated Weick’s (1985) description of “in front of terminal work” to ‘*new media at work*’. Gephart (2004) defined NMAW as computer-mediated technologies with the following four components: (a) computer processing of content that structures communication participation; (b) telecommunication networks that allow connectivity between people and information; (c) information or communication resources such as databases; and (d) digitalization of content. Examples of NMAW with these four features include emails, asynchronous computer conferencing, synchronous video and audio computer-mediated conferencing, chat, and other digital technologies that facilitate the exchange of multiple communication modes. These forms of NMAW provide rich and complex information which continue to be adapted, potentially lead to new ways of organizing, collecting and processing information, and new organizational forms.

Understanding the influence of technology on the sensemaking processes of employees has become all the more important given the extensive implementation of NMAW during COVID-19. In particular, questions about the impact of NMAW on the identities of employees raised by Weick (1995) remain pertinent today:

If sensemaking is partly an issue of negotiating one's way through multiple identities, what identities are being supported and undermined when sense is being mediated by information technology? And with what effects? [...] We need to get in close to see how people cope with the cryptic worlds represented on screens. (p. 179 -180).

Christianson and Barton (2020) call for a re-examination on how technology-dependent ways of working introduced during COVID-19 affects the way people notice, meaning-make and act in organizations. The authors call for further research into how “the virtual context changes sensemaking” (p.3), and to “better understand not just how people make sense but also why” (p.2). Christianson and Barton (2020) posit that processing large amounts of data over extended periods of time may affect the ability to notice as it requires constant updates of understanding, leading to attention fatigue as cognitive resources are depleted. The prevalence of fragmented and sometimes contradictory information may affect the ability to make meaning as it challenges how people frame and interpret their understanding. Physical constraints brought about by COVID-19 may affect the ability of people to act, as a way of knowing. Christianson and Barton (2020) argue that understanding how people make sense of the current pandemic would reveal underlying assumptions of sensemaking processes itself, namely in the areas of attentional capacity, sensemaking motivations and enactment under constrained conditions.

### **3. Research purpose and context of study**

#### **3.1 Research purpose**

A review of the literature in Sections 2.1 and 2.2 identifies research gaps in generational and sensemaking studies in relation to the introduction of NMAW during COVID-19. This study aims to fill the gaps by examining if the introduction of NMAW during COVID-19 has indeed affected generations differently, and if so, how and why. Sensemaking, as a theoretical lens, allows for an examination of how employees of different generations respond to the changes in their work

environment (represented by the introduction of NMAW during COVID-19), through the processes of enactment, selection and retention, on individual and group levels. This study therefore aims to answer the following research question (RQ):

*How do different generations of employees make sense of NMAW introduced during COVID-19?*

In answering the RQ, this study further seeks to answer calls by sensemaking scholars to examine how employees' sensemaking may be influenced by the introduction of NMAW introduced during COVID-19, and for more research to be done on the relationship between sensemaking, organizational identities, emotions and influence.

### **3.2 Context of study**

This study is conducted in a Singapore organization to provide a non-American perspective to generational research. The organization is a suitable site of study for two other reasons. First, it has a multi-generational workforce of employees from all four generations. Second, all employees experienced a sudden and unexpected change to their working environment when the organization introduced NMAW within two weeks, following a government mandate for employees to work-from-home due to COVID-19 (Toh & Wong, 2020).

NMAW was extensively implemented, quickly. Video conferencing replaced physical meetings, and online webinars replaced in-person townhalls. Previously disparate channels of NMAW are now consolidated on Teams. For instance, collaborations previously done via emails are now done on SharePoint, instant messaging previously on Jabber now on Teams Chat, telephone calls now through Teams calls and video conferencing now on Teams meetings. The organization's use of NMAW for employee engagement also changed. All organizational information is now consolidated in a content hub, with increased frequency of published content, covering a more

diverse range of topics such as resilience and personal well-being. The organization started Yammer, an internal social media channel where senior management, departments and employees can post and react to personal updates of their colleagues.

Employees of all ages across the organization had to make sense of the sudden and unexpected changes to their work environment and use these new forms of NMAW when they were introduced. Employees from this organization are therefore suitable sources to help us understand how different generations make sense of NMAW introduced during COVID-19.

#### **4. Methodology**

Sensemaking studies commonly employ qualitative methods as they elicit the subjective meanings of participants and generate explanations for how people make sense of their new environment (Weick, 1995). Qualitative methods allow for the study of dynamic processes in organizations, with a focus on individual interpretations and participant perspectives as they unfold through activity sequences (Hinings, 1997; Pettigrew, 1992). A qualitative approach therefore helps to answer the RQ by unpacking how different generations of employees make sense of NMAW through the processes of enactment, selection and retention. Adopting a qualitative approach also answers recent calls by researchers for more qualitative work to be conducted in the field of organisational studies during COVID-19, so as to better understand the nuances of employees' sensemaking to new ways of working (Mockaitis & Butler, 2020; Christianson & Barton, 2020).

This section explains the data collection process, ethical considerations and data analysis framework applied in the context of this qualitative study.

##### **4.1 Data collection**

Semi-structured, in-depth interviews were conducted as they allow for a focus on the topic of study and affords flexibility to ask more detailed questions into participants' experience (Bryman,

2016). An interview guide (Appendix 1) consisting of open-ended questions was developed to provide a level of consistency across all interviews (Flick, 2009). Questions cover Charmaz's (2006) three main categories of interview guide questions: (a) initial open questions to establish facts (e.g. what forms of NMAW were introduced during COVID-19?); (b) intermediate questions to uncover experiences, thoughts and emotions (e.g. how would you describe your experience of using NMAW?) and (c) ending questions to provide retrospection (e.g. what stood out your minds about NMAW introduced during COVID-19?).

A pilot interview was conducted with one of the participants to test "how well the interview flows" (Bryman, 2016, p.472) and if the questions were easily understood. The pilot interview also allowed for a development of relevant questions (Yin, 2009) and preliminary data to be attained and developed in subsequent interviews (Charmaz, 2006). Theoretical sampling – the use of emergent data to elaborate and refine major categories – was used to check hunches, clarify relationships, and identify variations (Charmaz, 2006). The identification of video calls as a common NMAW used by all participants but in different ways, and subsequent questions to investigate these differences, is an example of how theoretical sampling was used in data collection.

All interviews were conducted in English and through video or audio calls. In line with best practices of theoretical sampling (Charmaz, 2006), memos were made during the interviews, sessions were recorded and transcribed immediately after they ended. Once all 13 transcripts were completed, I re-read each transcript to familiarise myself with the data once more.

## **4.2 Sampling**

To ensure diversity in age and job scopes, 13 participants consisting of employees from four different generations, from different line areas were interviewed. All met the respective age criterion of belonging to a specific generation and had undergone the same phenomena (Cresswell, 2013) of using NMAW introduced during COVID-19. Nine were identified through purposeful sampling. Four

additional participants (two Boomers and two Gen-Zs) were identified through snowball sampling. They were recommended by some initial participants as employees who would be able to provide relevant information to the study (Cresswell, 2013). Participants were between 64 to 24 years old. In all, 15 hours and 27 mins of interviews were conducted, each ranging between 1 to 1.5 hours. Information about the participants and interview durations are summarised in Table 1.

Limitations however, exist in the sampling of participants, and it is important that these limitations are addressed (Silverman, 2013). Boomer participants were the least senior in organizational hierarchy, Gen-X participants tended to be in senior management, Millennials in middle management while Gen-Zs were new entry-level executives. There were also less Boomer and Gen-Z participants. These sampling limitations however are a reflection of the organizational make-up of the organization. I sought to address these limitations by approaching more Boomers and Gen-Zs for the study, but only three Boomers and two Gen-Zs agreed to be interviewed. As the study takes place in a Singapore organization, findings of this study are not generalizable to the global context. However, the Singapore context of this research could contribute to the generational research by providing a non-American perspective to the use of NMAW introduced during COVID-19.



**Table 1***Overview of Participants & Interview Durations*

Generation	Code	Age	Years of service	Job Title	Line area	Duration of interview
Baby Boomer	B1	62	40	Associate	Communications	1 hr 13 mins
	B2	62	43	Associate	Communications	1 hr 22 mins
	B3	64	44	Associate	Sales	1 hr 15 mins
Generation X	X1	45	21	Vice President	Marketing	1 hr
	X2	45	20	Senior Manager	Marketing	1 hr 25mins
	X3	45	14	Manager	Communications	1 hr 6 mins
	X4	47	23	Divisional Vice President	Distribution	1 hr 5 mins
Millennial	M1	37	10	Assistant Manager	Marketing	54 mins
	M2	33	10.5	Manager	Planning	1 hr
	M3	37	16	Executive	Marketing	1 hr 25 mins
	M4	33	10	Manager	Distribution	51 mins
Generation Z	Z1	24	8 months	Executive	Marketing	1 hr 24 mins
	Z2	24	8 months	Executive	Distribution	1 hr 27 mins
						Total interview time: 15 hr 27 mins

**4.3 Ethical considerations**

Ethical considerations in qualitative research require researchers to be mindful of the welfare and rights of participants (Flick, 2009), respect participants' privacy and to be honest and clear about the purpose of the study (Bryman, 2012). In line with CODEX rules for research (Uppsala University, n.d.), informed consent was sought from participants. All participants were provided with

a consent form (Appendix 2) summarising the purpose and scope of the study, expected commitments, potential benefits and risks of participation, measures taken to ensure their confidentiality, and contact details of the researcher should participants want further clarification. They also have the right to terminate participation and withdraw from the study at any time. Participation is voluntary and anonymised. Data collected is stored in a password-protected file stored in this researcher's computer and will be destroyed five years after the completion of the study.

#### **4.4 Data Analysis**

The 13 transcripts covered 262 single-spaced pages<sup>1</sup>. They were coded and thematically analysed using qualitative data analysis software, Atlas. The data analysis applied the constant comparative approach (Charmaz, 2006) using recursive inductive, deductive and abductive methods, and involved four levels of analysis.

Inductive analysis was used in the first level of analysis. First, transcripts were re-read to sensitise myself to how participants described their experience with NMAW introduced during COVID-19, and to let important points related to the study emerge (Charmaz, 2006). Next, open coding was applied to each transcript to inductively identify level 1 codes related to participants' sensemaking of the NMAW). Level 1 codes included basic information on the types of NMAW participants used, and participants' descriptions of how they used NMAW. During this stage, every new transcript was compared to previous coded ones. An existing code was applied when I felt that similar topics were described. A new code was created when a new topic was described.

Deductive analysis was used in the second and third level of analysis. Kudesia's (2017) categorization of the seven properties corresponding to Weick's (1995) sensemaking framework of

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<sup>1</sup> Transcripts available on request. Due to privacy considerations, access to a password-protected file will only be provided to thesis examiners and opponents.

enactment, selection and retention, was contextualized to NMAW. In the second level of analysis, Level 1 codes which pertained to participants' descriptions of their experiences with NMAW were coded as a sensemaking property according to Kudesia's (2017) framework where relevant, or as a new emergent code when they did not fit established properties. These categorizations formed Level 2 codes. In the third level of analysis, Level 2 codes were mapped to their corresponding sensemaking aspects of enactment, selection and retention, forming Level 3 codes. Table 2 provides an overview of the framework used in the three levels of analysis.

In the fourth level of analysis, I iteratively looked for patterns of similarity and variation in how each generation made sense of NMAW through enactment, selection and retention. Commonly recurring themes were identified by going back and forth between individual transcripts level 2 and 3 codes. This allowed for enactment, selection and retention themes within each generation to emerge.

**Table 2**

*Level 1-3 Analysis Categorized According to Enactment, Selection and Retention*

<b>Level 3 codes:</b>  <b>Sensemaking aspect corresponding to sensemaking properties in context of study</b>	<b>Level 2 codes:</b>  <b>Sensemaking property related to participants' experience with NMAW</b>	<b>Level 1 codes:</b>  <b>Example quotes describing participants' experience with NMAW</b>
<b>Enactment:</b>  People are able to notice, interpret and take action with the NMAW	Focus on cues	"The majority of functions are very intuitive. You see the icons, the video, to turn it on, the mic to turn it on."
	Based on enacting sensible environment	"With teams you can do video calls, chats, upload files and share everything that way. It's very convenient."
<b>Selection:</b>  People draw on past experiences with NMAW to interpret information and their attempts at finding plausible explanations for their experiences.	Retrospective in nature	"In the past, emails can take half a day, or maybe a day. Now you expect a reply within the next few minutes."
	Driven by plausibility	"I think having every single staff on teams really makes working a lot more convenient."
	Emotions (emergent code)	"We were all in a fearful state."
<b>Retention:</b>  The ongoing process in which interpretations of NMAW affect individual and collective identities in the organization, and how these interpretations are negotiated through social interactions with others.	Grounded in identity	"Every group has his own kind of subculture, but up to the boss to kind of set the tone."
	Social	"We created a Teams Chat to bounce off each other's experiences."
	Ongoing process	"Even right now, when we are seeing each other a lot more often, we're still using this to exchange, greetings and information."
	Perceived influence (emergent code)	"I take the initiative to switch on my video and they feel compelled to do so as well."

## 5. Findings

The analysis of the data answers the RQ by unpacking how the different generations of employees interviewed make sense of NMAW introduced during COVID-19. This section presents main themes related to each generation's enactment, selection and retention of NMAW.

### 5.1 Boomers: Learning to cope with NMAW

Findings observed from Boomers interviewees' experiences in enactment, selection and retention suggest they may be cognitively and emotionally challenged by the use of NMAW. Prior to COVID-19, Boomer never used Teams or any of its collaboration, chat and call functions, never participated in video conferences, and never joined online webinars. Their *enactment of NMAW* seemed to be limited by their lack of knowledge and experience with the new forms of NMAW suddenly introduced during COVID-19. B1 described having to use Teams Invite when it was first introduced as "rocket science" as she was initially unable to notice and interpret functional cues such as where to create an invite. In instances where they had difficulties taking immediate action with NMAW, Boomers interviewed took action by seeking help and clarification from others. Fellow Boomers were the first points of contact. For example, B2 revealed a Boomers-only WhatsApp group chat was set up to exchange questions and solutions to NMAW problems. B1 highlighted she would carry out practice runs on Teams Meetings with other Boomers to familiarise herself with the video conferencing tool. B1 and B2 revealed that when fellow Boomers were unable to resolve NMAW issues, they would phone the IT support department for assistance.

Boomers' *selection of NMAW* appeared to be influenced by personal and shared past experiences faced by their generation. Their experiences with NMAW could be positive and/or negative. Depending on the nature of these experiences, a range of extreme positive or negative emotions could be triggered. Positive emotions include what B1 described as "a sense of achievement" at "speed learning" how to use NMAW. Negative emotions include an intrinsic "fear" of NMAW(B2), a sense of "helplessness when working with NMAW alone at home" (B1), and "sheer

frustration” when experiencing unexpected technical problems (B3). Shared negative experiences could also give rise to shared negative emotions. According to B2, “all of (the fellow Boomers) in the team pray every day” that NMAW problems which occurred “practically every day”, would not happen.

Findings suggest Boomers attributed the cause of NMAW problems to factors beyond their control, such as “bad luck” (B2) or “faulty equipment” (B3). To be able to continue carrying out their tasks, Boomers interviewed sought to take plausible actions. However, these plausible actions were aimed at solving the immediate problem at hand instead of finding longer term solutions. In B1 and B2’s case, this involved calling the IT support department when issues with Appstream, an application that provides remote access to their desktops, cropped up. When informed that the problem could be due to their office desktop being locked after a period of inactivity on the remote laptop, they called building operations staff based in the office to physically restart their desktops. As these issues stem from the laptops being remoted connected to their desktops, B1 and B2’s department offered them new laptops which would not require remote access, as a long-term solution. All Boomers in their department declined the offer. As B2 explained, she had become used to NMAW problems and would rather cope with them than take a chance on a new, unfamiliar solution:

There are so many things that are set up onto this current laptop that we feel quite comfortable. For me, when I'm so used to something I don't want to change. So even if every other day I may have problems, it's ok. The trouble with having a new laptop is that you're fearful that there might be something you miss out.

As for *retention of NMAW*, interviews suggest that Boomers’ self and collective identities were influenced by NMAW interactions. B1 said the need to trouble-shoot NMAW problems led to more interactions with fellow Boomers and fostered a sense of camaraderie amongst her generational colleagues:

Before COVID, there was a lot of distrust amongst everyone. But since COVID happened, we all had to work from home and we needed each other's help. And whenever help was needed, it was given. So the relationship has become better. Because when you are in a spot, and somebody helps you feel so grateful. The relationship has improved tremendously.

NMAW interactions with other generations however, appear to be mixed. All Boomers interviewed responded positively with gratefulness when younger colleagues helped to solve a problem, but B2 expressed annoyance when a Millennial pressured her to work faster. NMAW interactions could also negatively affect Boomers' self-identities. B3 described feeling belittled and misunderstood when her technical difficulties with NMAW was wrongly perceived by her Gen-X superior as incompetency with new media:

It's real frustration. Especially when your boss actually says that you're very poor digitally, or not tech savvy. Then it kind of hits you. Shit! It's not me, it's the set! I can do what you all want me to do. It's because my computer set is sick. So, it's quite damaging to my ego.

## **5.2 Gen-Xs: Leading the way with NMAW**

Findings suggest Gen-Xs interviewed see NMAW as opportunities which enable them to lead others in the organization. Their enactment, selection and retention processes appear to be consciously guided by efforts to influence others' NMAW practices. Gen-Xs interviewed were able to *enact NMAW* easily, with all interviewees saying they had "no problems" noticing, interpreting and acting on the functional cues of new media. However, beyond noticing the functional cues of NMAW, Gen-Xs interviewees also noticed the limitations of NMAW, specifically that it lacks the spontaneity of in-person interactions. X1 explains:

Pre-COVID, you'll just walk over to the colleagues' desk, and have a conversation to clarify things. In today's environment, we need to send a message on MS Teams and ask if it's

convenient to talk. And then they reply yes or no... the difference is that interactions aren't so spontaneous.

Interviews suggest that Gen-Xs' are also conscious of how their use of NMAW may be interpreted by others. For example, X2 reported her suspicion that "younger staff may feel very pressured to answer to Teams Chat messages if they receive it after office hours", and decided along with fellow Gen-X managers in the department that they "should practice some restraint". Gen-Xs interviewees used NMAW to take actions to mitigate the loss of social interactions in the workplace during COVID-19. For example, X2 organises bi-monthly "virtual sync-ups with everyone" to "keep the engagement level intact and find out how everybody has been coping, not just with work, but also with the entire COVID situation".

Findings suggest that Gen-Xs' *selection of NMAW* was influenced their experience with past ways of working and how NMAW ways of workings compare. Interviewees consciously assessed what has been gained and lost through the use of NMAW: while all of them appreciated the efficiency NMAW brings, they were also mindful that it is less personable than past face-to-face interactions. The desire to close interpersonal gaps forms the basis of the plausible actions Gen-Xs take on new media. For example, X1 switches on his camera during video conferences to "lead by example", hoping others would follow suit and "visual cues from attendees" can be exchanged. They also make efforts to interact with others on Yammer, the organization's internal social media page. X1 likes colleagues' Yammer posts as a way to "show encouragement" to colleagues, while X4 posts team developments to foster interpersonal bonds within the organization:

I posted photos of my team winning an award to share good news with people. It's also important to react when people share. We appreciate the content, comment and like what is being posted. It can lend a certain momentum to get everybody to be involved and included.



Findings suggest Gen-Xs' *retention of NMAW* is largely related to how they identified themselves as leaders who play a crucial role in strengthening organizational effectiveness and knowledge during Covid-19. For example, X3 offered to provide Boomers with new laptops "so that they can work more effectively at home", while X2 set up shared files on Teams so that new Gen-Zs entrants have access to operational information. Gen-Xs interviewed however, assessed the identities of other generations based on the cohort's ability to use NMAW. All Gen-Xs interviewed unanimously identified Gen-Zs as being very tech-savvy. Boomers in contrast, were initially identified as being not tech-savvy, and "probably having the hardest time adapting" (X3) to NMAW. However, Gen-Xs' perceptions of Boomers changed when they observed that Boomers were able to execute everyday tasks using NMAW. X1 shares how his perceptions of Boomers changed:

There was this myth that the older generation can't adapt to digital communication. But this whole episode demonstrated that actually they can. It's possible. Everybody can learn.

### **5.3 Millennials: Doing more with NMAW**

Findings suggest Millennials see NMAW as to tools which enable them to be more efficient in their jobs. To maximise efficiency, they may selectively choose and control how they use NMAW when interacting with others in the organization.

Millennials interviewed *enact NMAW* easily, intuitively noticing, interpreting and acting on functional cues. All interviewees said they were able to start using NMAW tools immediately. Beyond functional cues, all Millennials interviewed also notice the professional benefits NMAW affords: greater efficiency, faster collaboration, consolidation of information and increased mobility. M4's description of the benefits of NMAW sums up similar responses from other Millennials interviewed:

It saves us a lot of time and it's also easier to coordinate across schedules. ... In terms of digitally sharing files, it's so much easier. Now you just upload everything into one folder, and everything is viewable by everyone, everybody can edit and update at the same time.

... Moving everything online's so much better for housekeeping. You can sort things nicely into different folders and if you want to find things, everything is easy. You just Ctrl F.

Findings suggest Millennials' ease in using NMAW enabled them to take actions aimed at achieving greater efficiency at work. Millennials interviewed all concede that they tend to switch off their cameras during video meetings so that "others cannot see that (they) are multitasking and working on other things" (M3). In M2's case, her familiarity with NMAW functions further allowed her to manipulate NMAW cues others see, so she could focus on work with less distractions:

I will make myself attend fake calls. Teams has an auto status change when you're on call. It tells people who are trying to reach you that this person is in a call. I find people are more forgiving in terms of late replies if they see that you're in a call. So, I sometimes call myself and the status changes to 'in a call'. That gives me some breather to do work that I need to do by myself.

Findings suggest Millennials' *selection of NMAW* was shaped by comparing personal past experiences of how they used to work before COVID-19, and how post-COVID ways of working with NMAW are better. For M2, she is now able to do more in less time:

I am just wowed by the efficiency and the unnecessary time we cut down with Teams by collaborating on the shared document. That's the part that really changes the way we work, compared to the past. Everyone can amend a document at the same time without needing to send to person A, person A comments, and send to Person B. It makes me think about how much time we have wasted in the past.

For M3, she is no longer physically constrained to working from office, and harnesses the flexibility NMAW brings by working on the go:

The best thing I like about it is the mobility, where I can actually have a life and still be able to complete my work. I can go out to meet people for lunch or dinners and still join calls.

Millennial interviewees' interpretation of NMAW as a more efficient way of working also extends to the organization. They believe the forced adoption of NMAW introduced during COVID-19 has changed the "organization for the better" (M4), and welcome it as a permanent feature moving forward.

Findings suggest Millennial interviewees' *retention of NMAW* may be guided by their organizational identity as efficient employees and influenced by their NMAW interactions with others. Using NMAW reinforced their identity as efficient workers because it allowed them to do more in a shorter amount of time. However, they were also conscious that the 'always on' nature of NMAW "blurs the line between their personal and professional selves" (M1). Millennials interviewed manage this tension by selectively controlling their NMAW interactions with the organization, doing only what they think is useful for their jobs and organizational knowledge. For example, all Millennials interviewed attend webinars only when they find the content relevant to their jobs or helps them know about how the company is doing financially.

Findings also suggest Millennials' use of NMAW could be influenced by their NMAW interactions with others in the organization. For example, M1's use of Teams and Yammer was an organic response to NMAW interactions with others:

I was given a heads up by my colleague that there would be a video call. So be prepared to turn on your video. There was a link in the calendar invite that once you clicked on it, the video chat would pop up in the window. ... As for Yammer, updates get pushed to our email. So whenever there's a new video from our EVP, we will receive an email from him, saying that he's put out a new video, go see.

Findings suggest Millennial interviewees' use of NMAW may also be influenced by the NMAW practices of others. For example, while Millennials interviewed preferred to have their cameras off during video calls, they would switch the camera on if "a majority of attendees have

their cameras on” (M4), if “instructed by (their) bosses” (M1, M3), or if they were “meeting senior management” (M2).

#### **5.4 Gen-Zs: Assimilating through NMAW**

Gen-Zs interviewed were newcomers to the organization who started work when COVID-19 measures were already implemented. As a result, their interactions with others were all done virtually via NMAW. Findings suggest Gen-Zs interviewed saw NMAW as enablers to help them assimilate with the organization. Their enactment, selection and retention of NMAW may be driven by their desire to fit in with the organizational culture and increase their organizational knowledge.

As self-described “digital natives” (Z1, Z2), Gen-Zs interviewed *enact NMAW* easily, intuitively noticing, interpreting and acting on the functional cues of new media. However, functional cues aside, findings suggest interviewees also noticed the actions others take with NMAW, interpreted others’ actions as a reflection of organizational culture, and then enacted the same actions to assimilate. In Z1’s case, while she had no problems using Teams’ status functions, she “definitely observed what (her) colleagues were doing before (she) started to understand what kind of status to put on Teams”. In Z2’s case, he mimics others’ camera on/off practices during video meetings by “do(ing) the same” because he doesn’t want to stand out. Findings suggest Gen-Zs interviewed used NMAW to help them gain organizational knowledge. Z1 for example, attends all webinars, reads all company press releases, and interacts on Yammer because she “want(s) to be kept aware of what the company is doing outside of (her) job”.

As newcomers to the workforce, Gen-Zs interviewed have no past experiences with using NMAW. Unlike other generations interviewed, Gen-Zs interviewed did not have any previous points of comparison in their working lives to guide their current interpretations of NMAW. Findings suggest though, that their *selection of NMAW* was shaped by their knowledge of digital communication tools in general and their past experiences with using these tools before joining the organization. While Z1

did not use Teams prior to joining the organization, she had “used very similar kinds of applications that definitely guided (her)” ability to use Teams easily. She was familiar with video conferencing as her university used Zoom when it shifted to online classes due to COVID-19, and describes “Teams (as) a little bit of a combination of Google Drive and Zoom...which (she) already knew how to use”. In Z1’s case, her familiarity with the tools allowed her to take more sophisticated plausible actions with NMAW, such as using the ‘focus’ mode on Teams so that she would not get distracting notifications.

Findings suggest Gen-Z interviewees’ *retention of NMAW* was also influenced by their identification as newcomers and they sought to acquire organisational knowledge and assimilate through NMAW interactions with others in the organization. Both Gen-Zs interviewed are part of a “support circle” (Z2) consisting of fellow Gen-Zs newcomers. Z2 shared that they would organize a Teams call every quarter “talk about work in general” and exchange new organizational knowledge such as “interesting projects” or “discuss the feasibility of certain initiatives”. Gen-Zs interviewed also appeared to assimilate with the Boomer generation by modifying their NMAW preferences and practices. Z2 described how he changed his use of NMAW channels to accommodate a Boomer he works with:

She tended to reply to my WhatsApp (messages), but only called me through Teams. I have no idea why, because Teams has a chat function. She isn't as active on Teams, but she uses that to call me directly. So, I'll WhatsApp her because I knew that her replies on WhatsApp will be faster. I tried to tweak my ways to suit her because I ultimately want to be as easy as possible for her to provide me with whatever information I needed, and for us to communicate. So I switched to her form of communication.

Findings suggest Gen-Z interviewees may have limited the way they used NMAW because they are conscious of their status as newcomers, and not in a position to challenge existing organizational practices. For example, interviewees for this study shared that as a default, cameras

are switched off during video meetings. While Z2's personal preference was to have the camera on for such meetings, he does not, as he thinks it is not his place to go against mainstream practices:

I get a feeling that because I'm quite junior still, I don't have a lot to contribute during a meeting. So because of that, I feel there's not really an impetus to switch on video. People will be thinking like, who is this guy? He switches on his video, he's listening intently, but he doesn't seem to have much to contribute. I feel like if I'm not the best placed to lead the discussion or to answer most of the questions, then it shouldn't come from me.

## **5.5 Generational differences in enactment, selection and retention of NMAW**

Findings presented in preceding sections suggest different generations vary in the way they enacted, selected and retained NMAW. In *enactment*, generations appear to have different abilities to notice and act on functional NMAW cues. Boomers interviewed described learning to use NMAW as “rocket science” and had to conduct practice runs to familiarise themselves with video conferencing. Interviewees from younger generations had no such problems, and all described using NMAW as an “intuitive” experience. Findings also suggest that Gen-X, Millennial and Gen-Z interviewees’ interpretations of NMAW cues go beyond functional cues, and these deeper interpretations vary. For example, to Gen-Xs, switching off the camera may mean a lack of non-verbal cues and impaired interactions; to Millennials, switching the camera off may mean being able to hide one’s activities from others in a video meeting; to Gen-Zs, switching off the camera may mean assimilating with mainstream organizational practices.

Findings also suggest generations differed in the *selection* aspect of sensemaking of NMAW. While all generations appeared to use past experiences as reference points for plausible action, they may differ in which past experience they choose to use as a point of reference. For example, Boomers interviewed used past emotions as a point of reference: their reluctance to use new laptops is caused by their fear of the unknown, which in turn was influenced by their previous traumatic experiences with using NMAW on short notice. Gen-Xs interviewed used their past experience of in-

person workplace interactions as a point of reference, and sought to mitigate the loss of face-to-face interactions by using NMAW to engage with colleagues. Millennials interviewed used their past levels of efficiency as a point of reference, and viewed their current experience of using NMAW as a more productive way of working. Gen-Zs interviewed used their past experiences with digital tools used before they entered the workforce as a point of reference on how to use NMAW.

Findings suggest generations also varied in the retention aspect of sensemaking of NMAW, with NMAW affecting generational identities and shaping their social interactions differently. For example, Boomers interviewed reported that while using NMAW improved their social interactions with fellow Boomers, NMAW interactions with other generations may lead to tensions and weaken Boomers' self-esteem. Gen-Xs interviewed reported using various NMAW as tools to increase social interactions with others in the organization, such as organizing virtual engagement sessions, switching on their cameras during video conferences to "lead by example" and liking Yammer posts to foster a sense of community. Millennials interviewed reported using NMAW selectively, in ways that would reinforce their identities as efficient employees. Gen-Zs interviewed reported being conscious of their identity as newcomers to the organization, and used NMAW to observe and assimilate with the corporate culture, and gain organizational knowledge through interactions with others.

## **6. Discussion**

This section discusses findings in Section 5, in relation to generational and sensemaking literature presented in Section 2, and expands the current field of knowledge in these two research areas. Based on findings from this study, a model of enablers and disablers of sensemaking of NMAW is proposed.

## 6.1 Generational differences in the use of NMAW

Findings from this study contribute to generational studies by expanding the research on potential intergenerational tensions in the workplace, and suggesting alternative perspectives to recent reports on how different generations have been affected by the introduction of NMAW during COVID-19.

Generational literature point to generational stereotypes related to the use of technology: Boomers are least experienced with computers (Czaja et al, 2006), more uncomfortable with existing technology and were less likely to adapt to technology (Van Volkom, Stapley and Amaturro, 2014), while younger generations are believed to be digitally savvy as they had grown up with technology during their formative years (Dimock, 2019). Findings from this study appear to corroborate these observations. Gen-X, Millennial and Gen-Z interviewees said they had no problems using NMAW, while Boomers interviewed revealed that they faced challenges. Generational stereotypes surrounding the ability of older generations to use technology and handle change have been highlighted as a potential trigger of intergenerational tensions in the workplace (Urlick, 2020). Findings from this study however, suggest that while generational stereotypes may exist, they can also be challenged and changed. For example, X1 initially thought that Boomers were unable to adapt to NMAW, but subsequently described it as being “a myth” after he noticed that Boomers too “can learn”. Findings also suggest that generational stereotypes may even encourage accommodating behaviours when different generations interact. Z2 for example, changed his use of NMAW channels to accommodate the communication preferences of his Boomer colleague.

Researchers posit Gen-Zs’ digital savviness predisposes them to prefer a dynamic communication and immediate feedback at the workplace (Culpin, Millar, & Peters, 2015; Myers & Sadaghiani, 2010). Findings however, seem to suggest that this preference extends to Millennials as well, as seen by their appreciation of collaboration tools introduced during COVID-19. Studies also



claim Boomers prefer face-to-face communication (Proserpio & Gioia, 2007; Benson & Brown, 2011), but findings from this study suggest that this may not necessarily be true. Boomers interviewed reported having a better relationship with fellow Boomers when they communicated digitally following the introduction of NMAW, then when they communicated face-to-face previously. While generational preferences in communication modes have been identified as possible obstacles to effective information exchange in organizations (Flinchbaugh, Valenzuela & Li, 2018), findings suggest that effective information exchange may be impeded by *what* is communicated instead. Boomers interviewed for example, were negatively affected by what they perceived to be disparaging remarks on their ability to use NMAW by another generation.

The Work Trend Index (Microsoft, 2021) suggested that organizations have become more siloed during COVID-19, with employees depending more on their immediate teams for support. Findings from this study offer partial support for the Microsoft (2021) report. Boomers and Gen-Zs interviewed did depend more on their fellow generational colleagues, possibly because these “support circle(s)” offer a safe space for members to acquire knowledge without the fear of judgement. For Boomers, the WhatsApp group chat allowed them to exchange NMAW tips, and practice runs allowed them to learn from their mistakes. For Gen-Zs, regular Teams catch-up sessions allowed them to exchange new organizational information. Gen-Xs’ engagement with broader networks across the organization however, increased with the introduction of NMAW during COVID-19. They organized regular engagement sessions and interacted with others via Yammer.

Findings from this study also suggest alternative observations to how different generations have been affected by the introduction of NMAW during COVID-19. Recent reports conducted since the onset of COVID-19 (Microsoft, 2021; Smartsheet, 2020; Mockaitis & Butler, 2020) found the younger generations, particularly the Gen-Zs, to be most affected by the introduction of NMAW during the pandemic. Studies posit that remote working has impeded the socialization of Gen-Zs

newcomers to the workplace (Ancona, Bresman & Mortensen, 2021). However, findings from this study suggest that it is the Boomers who are having the hardest time coping with remote work and new media. And while Gen-Zs were unable to physically socialize into the organization, they were still able to use NMAW to actively assimilate with mainstream workplace practices and acquire organizational knowledge.

## **6.2 Generational differences in sensemaking of NMAW**

Findings from this study suggest different generations make sense of new media at work introduced during COVID-19 differently. Boomers interviewed revealed that they had limited knowledge and experience with new media at work, and felt fearful of using these new tools. Christianson & Barton (2020) posit that processing large amounts of data over extended periods of time affects one's ability to notice new media cues, leading to attentional fatigue. The experiences of Boomers interviewed suggest that attentional fatigue could be further influenced by the inability to notice unfamiliar NMAW cues and the concurrent emotional overload arising from using these tools. Christianson & Barton (2020) also posit that physical constraints brought about by COVID-19 may impede the ability of people to act, as a way of knowing. However, findings from Boomers interviewed suggest they were still able to act and learn, albeit through digital means. Despite physical constraints, they shared NMAW information through WhatsApp chat groups as a way to develop their NMAW competencies.

Findings suggest younger generations make sense of new media differently from Boomers. Younger generations had no problems enacting new media and interpreted new media at work as enablers which reinforced their respective organizational identities: Gen-Xs as leaders, Millennials as efficient employees and Gen-Zs as newcomers. Findings suggest their identities were a strong influence on the actions they took with NMAW. Gen-Xs used NMAW as a way of sense-giving, Millennials used NMAW to be more efficient and Gen-Zs used NMAW to assimilate with the

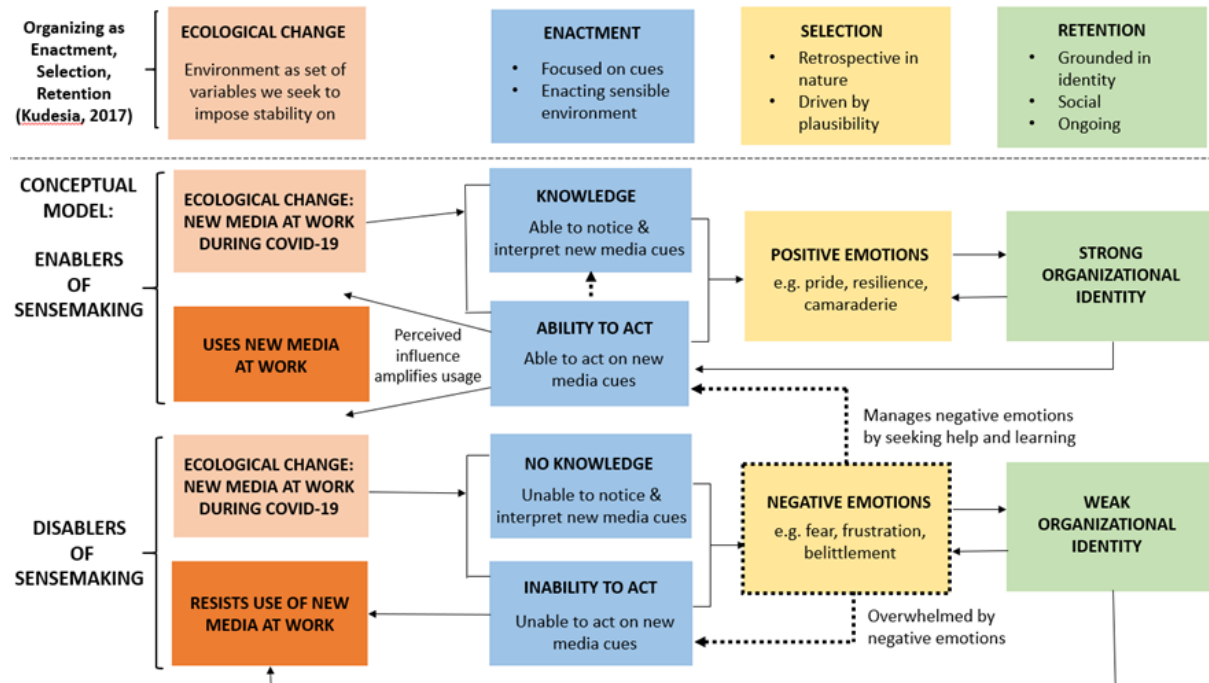
organization. These findings could support sensemaking research which argues that a shared organizational identity facilitates meaning construction (Maitlis & Sonenshein, 2010).

### **6.3 Enablers and disablers of enactment, selection and retention in NMAW**

This study applied sensemaking as a theoretical lens to understand how employees of different generations make sense of NMAW introduced during COVID-19. Kudesia (2017) summarised the sensemaking process as illustrated in Figure 1 in Section 2.2.1. Findings from this study, could potentially expand on Kudesia's (2017) model of sensemaking in four ways. Firstly, by identifying the main sensemaking properties which are more influential in enactment, selection and retention respectively. Secondly, by suggesting how each of those main sensemaking properties corresponding to enactment, selection and retention, may enable or disable an individual's sensemaking process. Thirdly, by suggesting that individuals who feel disabled in the selection stage, could still enable themselves if they choose to take action to learn. Fourthly, by suggesting that influence could be an amplifier of the range of actions one takes to impose stability on the new environment. These elements are brought together in a conceptual model of enablers and disablers of enactment, selection and retention of NMAW introduced during COVID-19 (Figure 2). The conceptual model, derived from findings of this study, is explained in following sub-sections.

**Figure 2**

*Conceptual Model of Enablers and Disablers of Enactment, Selection and Retention of NMAW Introduced During COVID-19*



### 6.3.1 Main sensemaking properties influencing enactment, selection and retention of NMAW

In the context of this study, enactment refers to the ability to notice, interpret and act on NMAW introduced during COVID-19. Findings suggest that enactment is primarily influenced by the knowledge one has of NMAW, which in turn influences the extent to which one is able to act on new media. Findings suggest Gen-Xs, Millennials and Gen-Zs interviewed have knowledge of NMAW and were able to easily notice, interpret and act on NMAW cues, while Boomers interviewed did not. This suggests that *knowledge and the ability to act are the main properties influencing enactment of NMAW*.

Selection in this study refers to how people draw on past experiences with NMAW to interpret information and their attempts at finding plausible actions they can take with new media. Findings suggest one's interpretation of NMAW is largely influenced by their past experiences with

using the tools. But by unpacking 'past experiences', findings suggest interviewees selected what they remember from the past based on what they most strongly *feel* when they use NMAW. Findings from Gen-Xs suggest they feel NMAW allows them to fulfil their responsibilities as leaders, Millennials feel energized and liberated, Gen-Zs feel like part of a community while Boomers experience extreme positive and negative feelings, ranging from pride to belittlement. Findings also suggest these feelings influenced the plausible actions they took on new media. This suggests that *emotions are a strong influence in selection of new media.*

Retention in this study, refers to the ongoing process in which interpretations of NMAW affect individual and collective identities in the organization, and how these interpretations are negotiated through social interactions with others. Findings suggest interviewees were more likely to use NMAW when they believed the tools would help reinforce their respective organizational identities. Gen-Xs, Millennials and Gen-Zs interviewed used NMAW as tools to help them lead, do more and assimilate respectively. Boomers interviewed however, worried that their challenges in using NMAW would adversely affect their identities in the organization. This suggests that *organizational identity is the main sensemaking property influencing retention of NMAW.*

### **6.3.2 Sensemaking enablers and disablers of NMAW**

Findings suggest there are enablers and disablers for each of the main sensemaking properties within enactment, selection and retention. In enactment, knowledge and ability to act are enablers because they allow interviewees to take immediate action with new media. The lack of knowledge and the inability to act are disablers because as Boomers findings suggest, one cannot take immediate action with NMAW if there's little understanding of the tool in the first place. In selection, positive emotions are enablers because they reinforce the benefits of using new media. Negative emotions on the other hand, are disablers because NMAW becomes associated with unpleasant experiences which one would want to avoid. In retention, strong organizational identity is

an enabler because it motivates the individual to want to use NMAW to reinforce their role in the organization. Weak organizational identity is a disabler for converse reasons.

### **6.3.3 Pathways of sensemaking enablers and disablers of NMAW**

Findings from this study suggest that sensemaking of NMAW can take two different paths: one which enables the individual to use NMAW and another which disables. The initial path one takes could be critically influenced by one's knowledge of and ability to act on NMAW cues. Having knowledge and the ability to act sets the individual on the enabler path, while the lack of knowledge and ability to act sets one on the disabler path. In the *enabler path*, individuals are able to NMAW to meet their objectives and this triggers positive emotions. Their NMAW actions and positive emotions in turn strengthen their identities in the organization, which reinforces their use of NMAW. Gen-Xs', Millennials' and Gen-Zs' sensemaking of NMAW described in Section 5 exemplify this process.

In the *disabler path*, individuals are unable to use NMAW to meet their objectives, and this triggers negative emotions. At the point when negative emotions are felt, individuals are at an important crossroad: the actions they choose to take as a response to these negative emotions, influences whether they change course to the enabler path, or continue on the disabler path. Seeking help from others and making efforts to learn are first steps towards the enabler path. It allows them to go back to the enactment stage, this time with more knowledge and ability to act. This triggers positive emotions and sets them the enabler path going forward. This process may be exemplified by B1's experience with NMAW in Section 5.1. She started out thinking NMAW was "rocket science" and was unable to immediately act on functional cues. While this triggered negative emotion of fear, she took actions to learn from others. Her subsequent ability to use NMAW changed her emotions from negative (fear) to positive (a sense of camaraderie). From here, she proceeded on the enabler path as her positive emotions strengthened her identity in the organization, and allowed her to "just adapt" to NMAW.

However, one could also choose to accept the negative emotions and not take active steps to remedy the situation. When this happens, the cycle of disablement continues recursively: one continues to lack knowledge and ability to act on new media, continues to experience negative emotions, and continues to feel separated from the organization. With no light at the end of the tunnel in sight, the individual likely continues to resist using NMAW. B2's experience in Section 5.1 could exemplify this cycle of disablement. Her remote access to the desktop in the office caused problems with using new media, and triggered the negative emotion of "stress". Laptops with direct access to the office network were offered as a solution, but B2 chose to reject the solution. She was more "fearful" of what could go wrong with a new laptop, then hopeful of what could go right. Faced with negative emotions, B2 chose inaction and her use of NMAW may likely continue to be limited.

#### **6.3.4 *Influence as an amplifier of NMAW actions***

Findings from this study suggest the self-perceived influence one has in the organization amplifies the use of NMAW. Those who see themselves as having more influence may be more likely to use NMAW in more ways, across more NMAW channels, to influence the behaviours of others. Conversely, those who perceive themselves as having less influence, may be more likely to use NMAW in less ways, across less channels, to influence others. This is suggested by the NMAW practices of Gen-Xs and Gen-Zs. Gen-Xs interviewed see themselves as leaders responsible for ensuring operational efficiency and maintaining engagement with the wider organization. They take the lead by using NMAW extensively to fulfil these responsibilities. Gen-Zs on the other hand, see themselves as having less influence because they are newcomers. They assimilate their NMAW practices with others because they think they are "not best placed to lead".

The conceptual model of enablers and disablers of enactment, selection and retention of NMAW introduced during COVID-19 further answers calls by sensemaking scholars for more research to be carried out on the impact of emotions and influence on sensemaking during times of

organizational change (Maitlis and Sonenshein, 2010). This conceptual model suggests that the type of emotions experienced may either enable or disable enactment of NMAW, and that there could be a relationship between one's self-perceived influence in the organization and the extent of actions one takes with NMAW.

## **7. Conclusion**

### **7.1 Contribution to research**

While findings from this study may not be entirely generalizable, they expand on generational research and provide a sensemaking perspective to how different generations make sense of NMAW during COVID-19. Findings suggest that there are generational differences in the use of NMAW, and that contrary to recent reports (Microsoft, 2021; Smartsheet, 2020; Mockaitis & Butler, 2020), Boomers could be facing the most challenges in using NMAW during COVID-19. Yet, experiences of Boomer interviewees could provide some answers to Christianson and Barton's (2020) question on how technology-dependent ways of working introduced during COVID-19 influences sensemaking. Findings from Boomers suggest attentional fatigue arising from the use of NMAW could be influenced not just by processing large amounts of data, but also by the emotional overload of using unfamiliar NMAW. Findings further suggest that despite physical constraints brought about by COVID-19, individuals are still able to learn how to use NMAW through digital channels.

By adopting a sensemaking approach, this study provides a more nuanced understanding of the enactment, selection and retention aspects of different generations in their use of NMAW introduced during COVID-19. Findings suggest that a generational cohort's sensemaking of NMAW is influenced by their organizational identities and interactions with other generations on NMAW platforms. Boomer interviewees find NMAW challenging, and something that they have to learn to cope with. Gen-X interviewees see NMAW as enablers for them to lead, Millennial interviewees see



NMAW as enablers for them to do more, and Gen-Z interviewees see NMAW as enablers for them to assimilate.

This study further adds to sensemaking research by proposing a conceptual model of enablers and disablers in the enactment, selection and retention of NMAW introduced during COVID-19. It suggests that knowledge and the ability to act on NMAW are enablers of enactment, positive emotions are enablers of selection, and a strong organizational identity as an enabler of retention. The model also suggests that how one responds to negative emotions during the selection aspect of sensemaking influences whether one stays on the disabler path of disablement or changes to the enabler. The model further proposes that one's self-perceived influence in the organization amplifies their use of NMAW to shape the behaviour of others.

## **7.2 Practical implications**

Findings from this study suggest that a one-size-fits-all implementation of NMAW is potentially problematic for organizations with a multi-generational workforce as different generations make sense of NMAW differently. Findings suggest that Boomers' sensemaking of NMAW may be unique from the other generations. Some of possible challenges Boomers face have been identified in Section 5, and organizations could use these findings as guides on what issues to address, and how to address them.

Boomers interviewed were unfamiliar with the suite of Teams functions as they did not use the tool prior to COVID-19. Management could use these insights to reduce the difficulties Boomers may face, such as providing them with small, easy-to-understand tips on how to use NMAW on digital channels that they are more familiar with, like emails. Findings also suggest Boomers prefer to seek help in safe spaces, such as Boomers-only chat groups. Management could leverage on this insight by organizing Boomers-only NMAW classes which involve practice runs with using specific NMAW functions such as video conferencing. These sessions should ideally be conducted in person,

as it removes the obstacle of fear Boomers may experience when interacting on virtual platforms. Findings suggest that Boomers experience negative emotions of frustration and stress when they are expected to work fast with NMAW tools. The pace of teaching should therefore be customized to the pace at which Boomers learn.

Another finding which could have potential implications for organizations with multi-generational workforces is that all Gen-Xs interviewed unanimously believed their Boomers colleagues had successfully adapted to NMAW ways of working. Findings suggest however, that while Boomer interviewees may have been able to carry out their jobs, they do so with cognitive difficulty and emotional baggage. This finding is especially noteworthy for organizations where Gen-Xs tend to be leaders. Gen-X leaders may be less likely to set up organizational processes to facilitate Boomers' learning if they assume that Boomers have adapted to NMAW simply because Boomers are able to function in their jobs. This in turn risks perpetuating the cycle of sensemaking disablers for Boomers, as they are now expected to work faster with new media, with little organizational learning opportunities in place. Urick's (2020) warning that the increased use of technology risks worsening intergenerational tensions is especially salient and applicable here. Management needs to be open to the possibility that there could be more going on behind the "cryptic worlds represented on screens" (Weick, 1955, p. 180) and pay particular attention to the actual experiences of less tech-savvy Boomers.

### **7.3 Limitations of study**

Findings from this study are derived from a limited number of participants from generational cohorts, particularly from Boomer and Gen-Z groups. While the sample size may raise questions about the generalizability of the study, the findings nonetheless reflect views and experiences of these under-represented generations. The study is specific to a Singapore organization and as such findings may not be globally applicable. There also tends to be a correlation

in the organization, between an employee's position in the company and their age. As such, the possibility that study findings may be influenced by rank cannot be discounted.

#### **7.4 Future research**

Findings are unique to this study and may not be globally generalizable for reasons stated above. However, future research employing the methodology in Section 4 could be carried out on other organizations to establish whether patterns exist in how different generations of employees make sense of NMAW. This would allow richer comparisons to be made between how employees of different generations from different organizations and cultural contexts make sense of NMAW.

This study was conducted in the midst of COVID-19, and represents a snapshot in time. Future research could adopt a longitudinal approach to examine if NMAW sensemaking by different generations changes over time. A longitudinal study could provide more insights into the conceptual model of enablers and disablers of sensemaking of NMAW, particularly if a more frequent use of NMAW would increase knowledge and ability in enacting NMAW tools.

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## **Appendix 1: Interview guide**

### **1. Background info:**

How old are you?

How many years have you been working in your company? What do you do?

How much do you use digital communication tools in your daily life, outside of work?

Give me some examples of what you use outside of work.

How comfortable are you with using them?

### **2. General questions**

**How did communication in the company change when COVID-19 happened?**

- how you communicated for work with your colleagues
- how your company communicated with you

**What new forms of digital communication do you use at work since COVID happened?**

- How does this compare to previous digital ways of communicating BEFORE COVID?
- Which of these new tools do you use?
- Is there a shift in the platform used for work eg from email to Teams etc?

**Using new digital tools for work eg Teams, video conferencing, Yammer etc**

- Why do you use XX
- How do you use XX
- How did you know how to use XX (If you sought help, who did you turn to and why? How were they able to help?)
- How did you feel while using XX
- Do you use XX for other reasons besides work? If so, how? (Eg personal chats)

**Are there new digital communication tools that you don't use? Why?**

**Is the way you use digital communication (eg XX) still changing?**

- If so, how?

**How did the way the company communicate with you change when COVID happened?**

- Webinars, emails, Yammer
- What do you think about these new ways of communication?
- Do you engage with it, if so how?

**How much do you read/ engage with the new digital forms in which the company using to communicating with you? (eg Yammer, email blasts etc)**

- Why or why not?
- What do you think about these new forms of communication?
- How do they make you feel?

**How would you describe your experience of digitally communicating and working with people from other generations in the company?**

3. Generation specific questions

***For Boomers:***

**Did you have access to digital communication tools before COVID?**

- Hardware (laptops, VPN etc)
- Software (Teams etc)
- Describe your experience with these tools during COVID

***For Gen-Zs:***

**As a newbie to the company, what was your experience like joining the company during COVID?**

- Expectations beforehand
- Social interaction with others
- Company culture

**How much do you know about the ways of working in the company before COVID?**

- What do you think about it?

**How would you describe your experience of digitally communicating and working with people from other generations in the company?**

- What about older colleagues eg gen staff?

**Did you face any challenges with these digital forms of communication when you joined?**

- How do you know where to find information, who to ask etc?
- How did you learn to use what you used?

***For Gen-Xs & Gen-Ys:***

**How do you use digital tools to communicate with your staff eg**

- Videos
- Chats
- Collaboration eg file sharing
- Morale

**4. Concluding questions**

Overall, what do you think and feel about these new forms of digital communication in your company?

What do your colleagues think and feel about these new digital forms of communication?

Looking back at your past and current experiences with digital communication, what stands out in your mind?

## Appendix 2: Participant consent form

### INTERGENERATIONAL SENSEMAKING OF NEW FORMS OF DIGITAL COMMUNICATION IN ORGANIZATIONS DURING COVID-19

You have been invited to take part in a research study to learn more about how different generations make sense of new forms of digital communication at the workplace during the Covid-19 pandemic. This study is being conducted by Mabel Lee, for her Master's dissertation at the University of Gothenburg, Department of Applied IT.

**Project Description:** This study seeks to gain a deeper understanding into how employees from different generations make sense of new forms of digital communication used in their organization in response to the COVID-19 pandemic in Singapore. This is an independent study carried out solely for the purpose of a Master's dissertation, and is not affiliated in any official capacity, with your organization.

**Confidentiality and Privacy:** The identities of all respondents will be kept strictly confidential. Respondents will remain anonymous at all times, and listed as codes instead (e.g., R1). Data from this study will be password-protected, stored in the interviewer's computer and destroyed five years after the study is completed.

**Activities and Time Commitment:** If you decide to take part in this study, you will be interviewed via video-conferencing or telephone, whichever you are more comfortable with. Interviews will be digitally recorded, and will take approximately 45 mins.

**Benefits and Risks:** There will be no direct benefit to you for taking part in this study. As identities of respondents will be anonymised, there is little risk to you in participating in this project.

**Voluntary Participation:** You can freely choose to take part or to not take part in this study. There will be no penalty or loss of benefits for either decision. Even if you agree to participate, you can stop at any time.

**Questions:** Should you have any questions about this study, please email Mabel Lee at [gusleema@student.gu.se](mailto:gusleema@student.gu.se). If you have questions about your rights as a research participant, you may contact Programme Manager Ben Clarke at [ben.clarke@ait.gu.se](mailto:ben.clarke@ait.gu.se).

*By agreeing to sign this consent form, you understand the purpose, risks, and benefits of this research study. Your questions and/or concerns have been answered. You will receive a copy of this consent form for your own records.*

Full name of participant:	
Date:	

Researcher:



Mabel Lee